

ADDITIONAL NOTES ON THE ERIOCAULACEAE. LXXXIII

Harold N. Moldenke

PAEPALANTHUS MUSCOSUS Körn.

Additional citations: Moldenke, *Phytologia* 41: 483 & 485. 1979.

The Pennell 2256, previously cited by me as P. karstenii var. minimus Moldenke, seems, on closer examination, to represent a form of P. muscosus. It was collected on wet open páramo at 3300 meters altitude, flowering in September, and is described by the collector as an herb with white flowers. Other recent collectors have found P. muscosus growing in marshy páramos, at 3845 m. altitude, fruiting in January, and describe the fruiting-heads as "greenish".

Additional & emended citations: COLOMBIA: Cauca: Cuatrecasas 19099 (W-2817410). Cundinamarca: Pennell 2256 (F-485508, N, W-1042205). ECUADOR: Carchi: Boeke 803 (N).

PAEPALANTHUS PARVUS Ruhl.

Additional bibliography: Moldenke, *Phytologia* 30: 109--110 (1975), 35: 36 (1976), and 35: 112, 332, & 333. 1977.

The Hatschbach collection cited below is placed here tentatively; it was collected in sunny sandy soil near rocky cliffs, flowering and fruiting in January.

Additional citations: BRAZIL: Minas Gerais: Hatschbach 40826 (Z).

PAEPALANTHUS PEDUNCULATUS (Bong.) Ruhl.

Additional bibliography: Moldenke, *Phytologia* 30: 114--115 (1975) and 35: 34. 1976.

Recent collectors have found this plant on "campo, solo arenoso junto a pequeño corrego", flowering in January.

Additional citations: BRAZIL: Minas Gerais: Hatschbach 40925 (Ld).

PAEPALANTHUS PERPUSILLUS Kunth

Additional bibliography: Moldenke, *Phytologia* 37: 50, 263, & 264. 1977.

Recent collectors have encountered this species on exposed river sand bars, at 35--65 m. altitude, flowering and fruiting in April and May.

Additional citations: VENEZUELA: Apure: Davidse & González 12254a (N), 12547 (Ld, Z).

PAEPALANTHUS PHAEOCEPHALUS Ruhl.

Additional bibliography: Moldenke, *Phytologia* 37: 50. 1977.

Additional citations: BRAZIL: Goiás: Irwin, Harley, & Smith 32154 (Ld).

PAEPALANTHUS PHELPSAE Moldenke

Additional bibliography: Moldenke in Steyermark & Brewer-Carías, Bol. Soc. Venez. Cienc. Nat. 132/133: 286. 1976; Steyermark & Brewer-Carías, Bol. Soc. Venez. Cienc. Nat. 132/133: 181. 1976; Moldenke, Phytologia 37: 50. 1977.

Steyermark and his associates describe this plant as growing in solitary clumps, the leaves membranous, rich-green on both surfaces, the heads sordid-white, and the involucre gray pale-brown. They found the plant at 1800 meters altitude, flowering in February and March, and distributed it as Syngonanthus sp.

Additional citations: VENEZUELA: Bolívar: Steyermark, Carreño Espinoza, & Brewer-Carías 109424 (W-2813880).

PAEPALANTHUS PILOSUS (H.B.K.) Kunth

Additional bibliography: Moldenke, Phytologia 37: 50. 1977.

Recent collectors have found this plant on páramos and Espeletia páramos, at 2980-3450 meters altitude, flowering in February, July, and October, fruiting in October, describe the species as a cushion plant, with white inflorescence-heads, the plants "easily separated" [as compared to those of P. karstenii var. corei], and record the vernacular name, "clavitos", for it.

Additional citations: COLOMBIA: Antioquia: Boeke & McElroy 265 (N); Fábrega 2198 (W-2771902). Cauca: Cuatrecasas 23654 (W-2816938).

PAEPALANTHUS PLANIFOLIUS (Bong.) Körn.

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378 (1975) and A.28: 170. 1976; Moldenke, Phytologia 37: 50-51. 1977.

Hatschbach found this plant in sandy soil along roadsides in the cerrado zone, flowering in January.

Additional citations: BRAZIL: Minas Gerais: Hatschbach 40932 (Ld).

PAEPALANTHUS PLANIFOLIUS var. **CONDUPLICATUS** Ruhl.

Additional bibliography: Moldenke, Phytologia 35: 29. 1976.

Additional citations: BRAZIL: Paraná: Dusén 15650 (Ld).

PAEPALANTHUS PLANIFOLIUS var. **GLOBULIFER** (Alv. Silv.) Moldenke & Smith

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Moldenke, Phytologia 37: 51. 1977.

Additional citations: MOUNTED CLIPPINGS: Silveira's original description & illustration (N, W, Z).

PAEPALANTHUS PLANIFOLIUS var. **VILLOSUS** Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.28: 170. 1976; Moldenke, Phytologia 33: 55. 1976.

PAEPALANTHUS POLYANTHUS (Bong.) Kunth

Additional bibliography: Moldenke, *Phytologia* 37: 51--52. 1977.

Recent collectors describe the "flowers" as white, and have found the plant in anthesis in March.

Additional citations: BRAZIL: Bahia: Mori, Mattos Silva, Kallunki, Santos, & Santos 9682 (Ld). Santa Catarina: Reitz 4687 (Ld).

PAEPALANTHUS POLYANTHUS f. **VILLOSUS** (Beauverd) Moldenke & Smith

Additional bibliography: Moldenke, *Phytologia* 37: 52. 1977.

Anderson encountered this plant in wet shaded places in cerrado, in an area of rocky cerrado and sparse woods, at 800 meters altitude, flowering in April, and describes it as an "herb to 1.1 m. tall, with many flowering stalks on one basal axis, heads white".

Additional citations: BRAZIL: Minas Gerais: W. R. Anderson 8815 (Ld, N). MOUNTED CLIPPINGS: Beauverd's original description (N, W, Z).

PAEPALANTHUS POLYTRICHOIDES Kunth

Additional bibliography: Moldenke, *Phytologia* 37: 52 (1977) and 38: 46 & 47. 1977.

Recent collectors describe this plant as forming multi-headed clumps, with gray-green leaves, white or whitish capitate flower-heads, and have encountered it in wet sand on savannas, in sand along rivers, in damp white sand in scrub, and in open xeromorphic scrub, at 750 m. altitude, flowering and fruiting in January, March, and September. Davis refers to it as a "small forb".

Material of this species has been misidentified and distributed in some herbaria as P. subtilis Miq. — the two Guyana collections listed below were even so cited by me in a previous publication in this series. On the other hand, the Bautista 68, distributed as P. polytrichoides actually is Syngonanthus umbellatus (Lam.) Ruhl.

Additional citations: VENEZUELA: Bolívar: Steyermark, Dunster-ville, & Dunsterville 113283 (Ld), 113343 (Z). GUYANA: D. H. Davis 156 (N); Herb. Univ. Georgetown Bio. 106 no. 21 (N). SURINAM: Mori, Bolten, & Jansma 8327 (Ld, N). MOUNTED CLIPPINGS: Huber's original description of P. maracanus (N, W).

PAEPALANTHUS POLYTRICHOIDES var. **GLABER** Moldenke

Additional bibliography: Moldenke, *Phytologia* 30: 319—320. 1975.

Irwin refers to this plant as "abundant in wet savannas among thickets on white wet quartz sand" and says that the flowers were "gray-white", blooming in April.

Additional citations: GUYANA: Irwin 475 (Au—165651, Au—178024).

PAEPALANTHUS PULLUS Körn.

Additional bibliography: Moldenke, *Phytologia* 35: 30. 1976.

Additional citations: BRAZIL: Rio de Janeiro: Gaudichaud s.n.

[Rio Janeiro; U. S. Nat. Herb. photo 5887] (W).

PAEPALANTHUS PULVINATUS N. E. Br.

Additional bibliography: Hutchins. & Dalz., Fl. W. Trop. Afr., ed. 1, 2: 328. 1931; Meikle in Hutchins. & Dalz., Fl. W. Trop. Afr., ed. 2, 3: 65. 1968; Moldenke, Phytologia 33: 57. 1976.

Hutchinson & Dalziel (1931) refer to this species as "A small cushion-plant with several shortly pedunculate heads from around the sides of the cushion". Meikle (1968) says "Plants forming dense cushions; leaves greyish, strongly recurved; capitula greyish, pilose, hemispherical, about 5 mm. diam.; sepals of female flowers not recurving at maturity". He cites only Bockstatt s.n. from Sierra Leone and notes that it is "A very rare plant, only once collected, and unsatisfactorily localized; its rediscovery would be very welcome."

PAEPALANTHUS RAMOSUS (Wikstr.) Kunth

Additional bibliography: Moldenke, Phytologia 37: 52 & 273. 1977.

Recent collectors describe this plant as to 40 cm. tall, with white flowers, and have found it in flower and fruit in March.

Additional citations: BRAZIL: Bahia: Vinha & Santos 156 (Ld, N). Minas Gerais: P. Clausen 232 (Ld).

PAEPALANTHUS RAMOSUS var. **AFFINIS** (Bong.) Ruhl.

Additional bibliography: Moldenke, Phytologia 37: 52. 1977.

Additional citations: BRAZIL: Espírito Santo: Duarte 13978 (N).

PAEPALANTHUS REGALIS Mart.

Additional bibliography: Moldenke, Phytologia 37: 53. 1977.

Santos describes this plant as up to 40 cm. tall, the "flores secas, arroxeadas quando jovens", and encountered it in rocky soil at 1050 m. altitude, flowering in May.

Additional citations: BRAZIL: Bahia: T. S. Santos 3113 (Ld, N).

PAEPALANTHUS REPENS (Lam.) Körn.

Additional bibliography: Moldenke, Phytologia 37: 53. 1977.

Additional citations: HISPANIOLA: Dominican Republic: Ekman H. 13667 (Ld); Türckheim 3327 (Au--26802). Haiti: Ekman H. 1385 (Ld).

PAEPALANTHUS SAXICOLA var. **CONICUS** Moldenke

Additional bibliography: Moldenke, Phytologia 35: 31 (1976), 35: 336 & 431 (1977), and 37: 84. 1977.

Additional citations: VENEZUELA: Amazonas: H. C. Clark 6638 (Ld).

PAEPALANTHUS SCANDENS Ruhl.

Additional bibliography: Moldenke, Phytologia 33: 138 & 140--141. 1976.

Shepherd and his associates refer to this plant as a "subar-

busta até 70 cm., capítulos brancos" and found it growing in brejo (wet sedge meadow), flowering in November.

Additional citations: BRAZIL: Goiás: Shepherd, Andrade, Kino-shita & Tamashiro 3745 (N, N).

PAEPALANTHUS SELLOWIANUS Körn.

Additional bibliography: Moldenke, *Phytologia* 33: 150--151 & 191. 1976.

According to J. Angely, in a letter to me dated August 25, 1977, the type locality for this species is "inter Castro - Itararé, 10 December 1828, leg. Sellow 5119" and this locality lies in what is now the state of Paraná, Brazil, not in São Paulo as some writers have contended, because São Paulo state was split up in 1853 and this locality is in the part split off as Paraná.

PAEPALANTHUS SESSILIFLORUS Mart.

Additional bibliography: Hocking, *Excerpt. Bot. A.25*: 379. 1975; Moldenke, *Phytologia* 33: 185--187 (1976) and 35: 288. 1977.

PAEPALANTHUS SESSILIFLORUS var. **VENEZUELENSIS** Moldenke

Additional bibliography: Hocking, *Excerpt. Bot. A.25*: 379. 1975; Moldenke, *Phytologia* 33: 186--187 (1976) and 35: 288. 1977.

PAEPALANTHUS SPECIOSUS (Bong.) Körn.

Additional bibliography: Hocking, *Excerpt. Bot. A.25*: 379. 1975; Moldenke, *Phytologia* 37: 54. 1977.

Kirkbride & Lleras refer to this plant as an herb, 1.5 m. tall, and found it growing in "short scrubby forest over bare white sandstone rocks", in flower and fruit in February.

Additional citations: BRAZIL: Pará: Kirkbride & Lleras 2971 (W--2815577, W--2815578, W--2815579).

PAEPALANTHUS SPECIOSUS var. **ATTENUATUS** Moldenke

Additional bibliography: Hocking, *Excerpt. Bot. A.25*: 379. 1975; Moldenke, *Phytologia* 35: 33. 1976.

Additional citations: BRAZIL: Goiás: Irwin, Harley, & Smith 32935 (Ld--isotype).

PAEPALANTHUS SPECIOSUS f. **CALVESEENS** Moldenke

Additional bibliography: Hocking, *Excerpt. Bot. A.25*: 379. 1975; Moldenke, *Phytologia* 33: 192, 194, & 196. 1976.

PAEPALANTHUS STEYERMARKII Moldenke

Additional bibliography: Moldenke, *Phytologia* 37: 54 (1977) and 38: 36 & 45. 1977.

Steyermark describes this plant as forming large depressed-globose gray-green clumps 0.5--2 meters in diameter, the heads gray-white, flowering in December, and found it as 1300 meters altitude.

Additional citations: VENEZUELA: Bolívar: Davidse 4681 (N);

J. A. Steyermark 111284 (N).

PAEPALANTHUS STUEBELIANUS Ruhl.

Additional bibliography: Moldenke, *Phytologia* 37: 54. 1977.

Recent collectors have found this plant in boggy soil, Sphagnum bogs, and the "sub-jalca" formation, flowering in May and June, fruiting in May, describing the inflorescence-heads as "white" or "whitish".

Additional citations: PERU: Amazonas: Boeke 1815 (N), 1826 (N), 2036 (N).

PAEPALANTHUS SUBTILIS Miq.

Additional bibliography: "M. P. B." [Moldenke], *Biol. Abstr.* 63: 6594. 1977; Moldenke, *Biol. Abstr.* 63: 3041. 1977; Moldenke, *Phytologia* 37: 54 (1977), 38: 41 (1977), and 41: 484. 1979.

The Steyermark 58447, distributed as and previously cited by me as P. subtilis, actually is the very similar P. lamarckii Kunth, while D. H. Davis 156, Steyermark, Dunsterville, & Dunsterville 113283 & 113343, and Herb. Univ. Georgetown Bio. 106-21 are P. polytrichoides Kunth.

Additional citations: GUYANA: Jenman 5770 (C).

PAEPALANTHUS SYCHNOPHYLLUS Ruhl.

Additional bibliography: "M. P. B." [Moldenke], *Biol. Abstr.* 63: 6594. 1977; Moldenke, *Phytologia* 35: 118. 1977.

Sucre and his associates found this plant growing in extensive colonies in clearings of "restinga contígua a mata alagadica, heliófila", along with sparse herbaceous vegetation "mais perto da área alagadica, flores branco-acinzentadas", flowering in June.

Additional citations: BRAZIL: Rio de Janeiro: Sucre, Graziela Barroso, & Ichaso 5312 [*Herb. Jard. Bot. Rio Jan. 175198*] (N).

PAEPALANTHUS TATEI Moldenke

Additional bibliography: "M. P. B." [Moldenke], *Biol. Abstr.* 63: 6594. 1977; Moldenke, *Phytologia* 35: 119-121. 1977.

Steyermark and his associates describe this plant as having "heads depressed, gray-white, involucre dull green, leaves flaccid, rich green" and have encountered it at 750 m. altitude, flowering in January.

Additional citations: VENEZUELA: Bolívar: Steyermark, Dunsterville, & Dunsterville 113274 (N, W--2813992).

PAEPALANTHUS TORTILIS (Bong.) Mart.

Additional bibliography: "M. P. B." [Moldenke], *Biol. Abstr.* 63: 6594. 1977; Moldenke, *Biol. Abstr.* 64: 4787. 1977; Moldenke, *Phytologia* 37: 36 & 55. 1977.

Recent collectors describe this plant as growing to 5 cm. tall, the scapes to 15 cm. tall, and the inflorescences "cinza" or "cor. verdes-sumo". They have found it growing in wet sandy soil, in

flower in April, July, and August.

Additional citations: BRAZIL: Bahia: Santos & Mattos Silva 3255 (Ld); Vinha 34 [Pinheiro 182] (Ld, N). Minas Gerais: Hatschbach 41260 (Ld), 41304 (Ld).

PAEPALANTHUS ULEANUS Ruhl.

Additional bibliography: Moldenke, Biol. Abstr. 64: 686. 1977; Moldenke, Phytologia 35: 255. 1977.

Additional citations: BRAZIL: Rio de Janeiro: Glaziou 17304 [U. S. Nat. Herb. photo 5886] (W—photo).

PAEPALANTHUS URBANIANUS Ruhl.

Additional bibliography: Moldenke, Phytologia 35: 257—258. 1977; Anon., Roy. Bot. Gard. Kew. Lib. Curr. Aware. List 8: 33. 1978; Moldenke, Phytologia 41: 475. 1979.

Additional citations: BRAZIL: Goiás: Haas, Haas, & Belém 364 [Herb. Brad. 50408] (N).

PAEPALANTHUS URBANIANUS var. **ANGUSTIFOLIUS** Moldenke, Phytologia 39: 330. 1978.

Bibliography: Moldenke, Phytologia 39: 330 (1978) & 41: 475. 1979.

The type collection of this variety, cited below, was previously mistakenly distributed and cited as P. arenicola Alv. Silv.

Citations: BRAZIL: Goiás: Irwin, Reis dos Santos, Souza, & Fossêca 24936 (N—type).

PAEPALANTHUS VENETIFOLIUS Moldenke & Steyerm. ex Moldenke, Phytologia 31: 383, nom. nud. 1975; in Steyerm. & Brewer-Carías, Bol. Soc. Venez. Cienc. Nat. 132/133: 284—286, fig. 4. 1976.

Additional bibliography: Moldenke in Steyerm. & Brewer-Carías, Bol. Soc. Venez. Cienc. Nat. 132/133: 284—286, fig. 4. 1976; Steyerm. & Brewer-Carías, Bol. Soc. Venez. Cienc. Nat. 132/133: 199. 1976; Moldenke, Biol. Abstr. 64: 686. 1977; Moldenke, Phytologia 35: 264. 1977.

Illustrations: Moldenke in Steyerm. & Brewer-Carías, Bol. Soc. Venez. Cienc. Nat. 132/133: [285], fig. 4. 1976.

PAEPALANTHUS VESTITUS Ruhl.

Additional bibliography: Hocking, Excerpt. Bot. A.28: 170. 1976; Moldenke, Biol. Abstr. 64: 1838. 1977; Moldenke, Phytologia 35: 278. 1977.

PAEPALANTHUS VESTITUS var. **CAULESCENS** Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.28: 170. 1976; Moldenke, Phytologia 35: 278. 1977.

PAEPALANTHUS VIRIDIS Körn.

Additional bibliography: Moldenke, Phytologia 35: 280—281. 1977. Hatschbach has found this species growing in sandy soil of corre-

gos, shady wet margins of corregos, and wet sandy soil on plains between a river and hills, flowering and fruiting in April.

Additional citations: BRAZIL: Minas Gerais: Hatschbach 41295 (Ld), 41325 (Ld), 41370 (N).

PAEPALANTHUS WEBERBAUERI Ruhl.

Additional bibliography: Moldenke, *Phytologia* 35: 283. 1977.

Additional citations: PERU: San Martín: Weberbauer 1152 [Macbride photos 10662] (Z--photo of cotype).

PAEPALANTHUS WILLIAMSII Moldenke

Additional bibliography: Moldenke, *Phytologia* 35: 284. 1977.

Recent collectors have encountered this plant in wet sandy areas on sandstone savannas, and report the flowers as "white". They have found it in anthesis in June.

Additional citations: COLOMBIA: Vaupés: Zarucchi & Balick 1792 (N). VENEZUELA: Amazonas: H. C. Clark 6859 (Ld).

PHILODICE Mart.

Additional bibliography: Moldenke, *Biol. Abstr.* 64: 1838. 1977; Moldenke, *Phytologia* 37: 56, 70, 87, 485, 488, & 510 (1977), 38: 50 (1977), 38: 509 (1978), and 41: 475 & 509. 1979.

PHILODICE HOFFMANNSEGGII Mart.

Additional bibliography: Moldenke, *Biol. Abstr.* 64: 1838. 1977; Moldenke, *Phytologia* 37: 56, 70, 87, 485, & 488 (1977) and 41: 475. 1979.

Recent collectors describe this plant as a "locally common" herb, to 10 cm. tall, the inflorescences "white", and have found it growing in moist or wet sandy soil, at 133 meters altitude, flowering and fruiting in May and October.

Material of this species has been misidentified and distributed in some herbaria as "Paepacantus bifudos (Schara) Kunth".

Additional citations: BRAZIL: Mato Grosso: Rosa & Santos 1973 (N). Roraima: Coradin & Cordeiro 803 (N).

RONDONANTHUS RORAIMAE (Oliv.) Herzog

Additional synonymy: Rhondonanthus roraimae (Oliv.) Herzog, in herb.

Additional bibliography: Moldenke, *Biol. Abstr.* 64: 1838. 1977; Moldenke, *Phytologia* 37: 56. 1977.

Steyermark and his associates describe this plant as having the "outer bracts blackish, rest of head bright white" or "heads white with black outer bracts" and found it growing in large or scattered clumps or "forming large tufts in spongy ground in open meadowy terrain among rock formations of 'morros' and on open slopes below bluffs", at 2750--2800 meters altitude, flowering in August and September. Irwin speaks of it as "occasional" at 9200

feet altitude, the flowers "gray-white".

Additional citations: VENEZUELA: Bolívar: Steyermark, Brewer-Carías, Dunsterville, & Dunsterville 112438 (N, W—2813991), 112608 (W—2813996). GUYANA: Irwin 704 (Au—173718).

SYNGONANTHUS Ruhl.

Additional synonymy: Mutia Mart. ex Moldenke, Phytologia 38: 127 & 128, in syn. 1977. Sygonanthus Ruhl., in herb.

Additional bibliography: Hutchins. & Dalz., Fl. W. Trop. Afr., ed. 1, 2: 324 & 328. 1931; Meikle in Hutchins. & Dalz., Fl. W. Trop. Afr., ed. 2, 3: 57 & 67. 1968; Hocking, Excerpt. Bot. A.25: 378 & 379. 1975; Spellman, Dwyer, & Davidse, Rhodora 77: 124. 1975; Hocking, Excerpt. Bot. A.28: 170, 171, & 259. 1976; Moldenke, Biol. Abstr. 61: 4884. 1976; Moldenke in Steyerm. & Brewer-Carías, Bol. Soc. Venez. Cienc. Nat. 132/133: 286. 1976; Steyerm. & Brewer-Carías, Bol. Soc. Venez. Cienc. Nat. 132/133: 182 & 183. 1976; Batson, Gen. East. Pl. 40 & 201. 1977; Moldenke, Biol. Abstr. 64: 1838, 2445, 4787, 5384, & 6581. 1977; Poppeton, Shuey, & Sweet, Fla. Scient. 40: 372. 1977; Moldenke, Phytologia 37: 24, 54, 56--58, 252--275, 420--423, 485--499, 508. & 511 (1977), 38: 23--50 (1977), 38: 178--193, 199, & 511 (1978), 39: 161 & 512 (1978), and 40: 316 & 511. 1978; Anon., Biol. Abstr. 65 (8): C.22. 1978; Anon., Roy. Bot. Gard. Kew Lib. Curr. Aware. List 8: 33. 1978; Craig, Proc. Fla. State Hort. Soc. 90: 110. 1978; Moldenke, Biol. Abstr. 65: 3117, 3719, & 4341. 1978; Moldenke, Phytologia 41: 10 (1978) and 41: 423, 464, 474, & 511. 1979.

SYNGONANTHUS ALLENI Moldenke

Additional bibliography: Moldenke, Phytologia 35: 311--312. 1977.

Prance and his associates encountered this species on open wet grassy savannas, fruiting in November.

Additional citations: BRAZIL: Pará: Prance, Silva, Berg, Henderson, Nelson, Balick, Bahia, & Reis dos Santos P.25250 (N, N).

SYNGONANTHUS ANDROSACEUS (Griseb.) Ruhl.

Additional bibliography: Moldenke, Phytologia 37: 56. 1977.

Additional citations: CUBA: Province undetermined: Herb. Bio. Dept. Va. Polytech. Inst. 11358 (Ld).

SYNGONANTHUS APPRESSUS (Körn.) Ruhl.

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Moldenke, Phytologia 35: 321--322 (1977) and 37: 96. 1977.

SYNGONANTHUS APPRESSUS var. CHAPADENSIS Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Moldenke, Phytologia 35: 322. 1977.

SYNGONANTHUS AURIFIBRATUS Alv. Silv.

Additional bibliography: Moldenke, Phytologia 35: 366 & 349.

1977.

The Schultes & Cabrera 17564, distributed as S. aurifibratus in some herbaria, seems actually to represent the perplexing taxon at present known as Paepalanthus saxicola var. conicus Moldenke.

Additional citations: MOUNTED CLIPPINGS: Silveira's original description & illustrations (N, W, Z).

SYNGONANTHUS BAHIENSIS Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Moldenke, Phytologia 37: 57. 1977.

Additional citations: BRAZIL: Bahia: Davidse, Ramamoorthy, & Vital 11932 (N).

SYNGONANTHUS BELLUS Moldenke

Additional bibliography: Moldenke, Phytologia 37: 57. 1977.

Material of this species has been misidentified and distributed in some herbaria as Paepalanthus fertilis Körn.

Additional citations: BRAZIL: Pará: Bautista 69 (N).

SYNGONANTHUS BIFORMIS (N. E. Br.) Gleason

Additional bibliography: Moldenke, Biol. Abstr. 64: 1838. 1977; Moldenke, Phytologia 37: 57 (1977) and 38: 40 & 41. 1977.

The Steyermark, Dunsterville, & Dunsterville 112373, distributed as S. biformis, actually is S. glandulosus var. epapillosus Moldenke, while these same collectors' no. 113135b is S. simplex (Miq.) Ruhl.

SYNGONANTHUS BISULCATUS (Körn.) Ruhl.

Additional bibliography: Moldenke, Biol. Abstr. 64: 1838. 1977; Moldenke, Phytologia 35: 341--342. 1977.

Hatschbach encountered this species in wet sandy soil of a plain between a river and hills, flowering in April.

Additional citations: BRAZIL: Minas Gerais: Hatschbach 41319 (N).

SYNGONANTHUS BRACTEOSUS Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Moldenke, Phytologia 35: 344. 1977.

SYNGONANTHUS CANDIDUS Alv. Silv.

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Moldenke, Phytologia 35: 348--349, 446, & 448 (1977), 37: 57--58 (1977), and 38: 27. 1977.

Additional citations: MOUNTED CLIPPINGS: Silveira's original description & illustration (N, W, Z).

SYNGONANTHUS CANDIDUS var. BAHIENSIS Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Moldenke, Phytologia 37: 57--58. 1977.

SYNGONANTHUS CAULESCENS (Poir.) Ruhl.

Additional & emended bibliography: Hocking, Excerpt. Bot. A.28: 170 & 259. 1976; Moldenke, Biol. Abstr. 61: 4884 (1976) and 64: 1838 & 2445. 1977; Moldenke, Phytologia 37: 58. 1977.

The Reitz 5343, distributed as typical S. caulescens in some herbaria, actually represents var. angustifolius Moldenke.

Additional citations: VENEZUELA: Guárico: Davidse 3771 (N). FRENCH GUIANA: Halle 2224 (N); Jannoda 47 (N). BRAZIL: Minas Gerais: Davidse, Ramamoorthy, & Vital 11590 (N). Paraná: Dombrowski 9437 (Ld); Dombrowski & Neto 9074 (Ld). Rio Grande do Sul: Rambo 46178 (Au--26803, Au--26804). MOUNTED CLIPPINGS: Bongard's original description of Eriocaulon splendens (N, W, Z).

SYNGONANTHUS CAULESCENS var. **ANGUSTIFOLIUS** Moldenke

Additional bibliography: Moldenke, Phytologia 37: 58. 1977.

Recent collectors have found this plant growing on wet campos and in brejo (wet sedge meadows), at 750 meters altitude, flowering in January and fruiting in October, the flowers describes as "white".

Additional citations: BRAZIL: Minas Gerais: Davidse & Ramamoorthy 10572 (N). Paraná: Hatschbach 40434 (Ld). Santa Catarina: Reitz 5343 [Herb. Barb. Rodr. 6346] (N, N).

SYNGONANTHUS CAULESCENS var. **HATSCHBACHII** Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.28: 170. 1976; Moldenke, Phytologia 35: 420. 1977.

SYNGONANTHUS CAULESCENS var. **PROLIFERUS** Moldenke

Additional bibliography: Moldenke & Sm. in Reitz, Fl. Ilust. Catar. I Erioc: 89, 93--94, & 103. 1976; Moldenke, Phytologia 35: 423. 1977.

The vernacular names reported for this variety are identical to those reported for the typical form of the species.

SYNGONANTHUS CHRYSANTHUS (Bong.) Ruhl.

Additional & emended synonymy: Eriocaulon morulum (Kunth) Steud. apud Moldenke & Sm. in Reitz, Fl. Ilus. Catar. I Erioc: 84, in syn. 1976. Eriocaulon morulum "Kunth ex Moldenke" apud Moldenke & Sm. in Reitz, Fl. Ilus. Catar. I Erioc: 99, in syn. 1976. Syngonanthus chrysanthus var. chrysanthus [(Bong.) Ruhl.] apud Moldenke & Sm. in Reitz, Fl. Ilust. Catar. I Erioc: 84. 1976.

Additional bibliography: Moldenke & Sm. in Reitz, Fl. Ilust. Catar. I Erioc: 77, 83--88, 98--101, & 103, pl. 9, fig. 1--9. 1976; Moldenke, Phytologia 35: 425--428 (1977) and 36: 74. 1977.

Illustrations: Moldenke & Sm. in Reitz, Fl. Ilust. Catar. I Erioc: 85, pl. 9, fig. 1--9. 1976.

Vernacular names recorded for this species are "capim-manso", "capipoatinga-dourada", "gravatá-manso", and "sempre-viva-do-campo"

and it is said to flower from November to February in Santa Catarina, Brazil.

SYNGONANTHUS CHRYSANTHUS var. **CASTRENSIS** Moldenke

Additional bibliography: Moldenke & Sm. in Reitz, Fl. Ilust. Catar. I Erio: 83, 87--88, & 103. 1976; Moldenke, Phytologia 35: 428. 1977.

Vernacular names reported for this variety are "capim-manso", "capipoatinga-dourada-de-castro", "gravatá-manso", and "sempre-vivado-campo" and it is said to flower in November.

SYNGONANTHUS COMOSUS Alv. Silv.

Additional bibliography: Hocking, Excerpt. Bot. A.28: 170. 1976; Moldenke, Phytologia 35: 430--431. 1977.

Additional citations: MOUNTED CLIPPINGS: Silveira's original description & illustration (N, W, Z).

SYNGONANTHUS DENSIFLORUS (Körn.) Ruhl.

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Moldenke, Phytologia 35: 435--438. 1977.

SYNGONANTHUS DENSIFLORUS var. **GLABRIFOLIUS** Moldenke

Additional bibliography: Hocking, Excerpt. Bot. A.25: 378. 1975; Moldenke, Phytologia 35: 438. 1977.

SYNGONANTHUS DENSUS (Körn.) Ruhl.

Additional bibliography: Moldenke, Phytologia 37: 68. 1977.

Keel refers to this plant as an "herb with runners" and found it in fruit in October.

Additional citations: BRAZIL: Amazônas: Keel 235 (N).

SYNGONANTHUS DROUETII L. B. Sm.

Additional bibliography: Moldenke, Phytologia 37: 68 (1977) and 38: 48. 1977.

Additional citations: VENEZUELA: Amazonas: H. C. Clark 6860 (Ld).

SYNGONANTHUS ELEGANS (Bong.) Ruhl.

Additional bibliography: Moldenke, Phytologia 37: 68, 69, 85, & 486--488 (1977) and 38: 27. 1977.

Additional citations: BRAZIL: Minas Gerais: Mexia 5735 (Au--26806). MOUNTED CLIPPINGS: Bongard's original description (N, W, Z).

SYNGONANTHUS ELEGANTULUS Ruhl.

Additional bibliography: Moldenke, Biol. Abstr. 64: 5384. 1977; Moldenke, Phytologia 37: 68--69, 487, & 488 (1977) and 38: 48. 1977.

Hatschbach has found this species growing in "solo arenoso junto a correço" and in sandy soil on plains between a river and

hills, flowering and fruiting in April.

Additional citations: BRAZIL: Minas Gerais: Hatschbach 41283 (N), 41373 (N).

SYNGONANTHUS FERTILIS (Körn.) Ruhl.

Additional bibliography: Moldenke, *Phytologia* 37: 69, 90, & 91 (1977) and 41: 10. 1978.

Recent collectors describe the flower-heads of this species as "white", found it in fruit in August, and have misspelled the name of the parenthetical author as "Korne".

The Bautista 69, distributed as S. fertilis, actually is S. bellus Moldenke, while W. A. Anderson 8130, Murça Pires, Silva, & Souza 9843a, and Saint-Hilaire C¹.712 [U. S. Nat. Herb. photo 5901], previously regarded as and cited as the typical form of S. fertilis, are now thought to represent var. fuscus Moldenke.

Additional citations: BRAZIL: Rondonia: Rosa, Murça Pires, & Rodrigues 894 (N).

SYNGONANTHUS FERTILIS var. FUSCUS Moldenke, *Phytologia* 41: 10. 1978.

Bibliography: Moldenke, *Phytologia* 41:

Collectors have encountered this plant on grassy hillside campos, at 1250 meters altitude, flowering in April and July, and fruiting in July. The specimens cited below were previously cited by me as typical S. fertilis (Körn.) Ruhl. before the present taxon was recognized.

Citations: BRAZIL: Goiás: W. A. Anderson 8130 (Ld, N); Murça Pires, Silva, & Souza 9843a (N--type); A. Saint-Hilaire C¹.712 [U. S. Nat. Herb. photo 5901] (N--photo, P, P, W--photo).

SYNGONANTHUS FISCHERIANUS (Bong.) Ruhl.

Additional bibliography: Hocking, *Excerpt. Bot. A.* 25: 379. 1975; Moldenke, *Phytologia* 37: 69 (1977) and 38: 178 & 179. 1978.

Additional citations: BRAZIL: Paraná: Dombrowski & Neto 9075 (Ld).

SYNGONANTHUS FLAVIDULUS (Michx.) Ruhl.

Additional bibliography: Batson, *Gen. East. Pl.* 40. 1977; Moldenke, *Biol. Abstr.* 64: 2445 & 6581. 1977; Moldenke, *Phytologia* 37: 69. 1977; Poppeton, Shuey, & Sweet, *Fla. Scient.* 40: 372. 1977; Craig, *Proc. Fla. State Hortic. Soc.* 90: 110. 1978; Moldenke, *Phytologia* 41: 464. 1979.

Additional illustrations: Batson, *Gen. East. Pl.* 40. 1977.

Craig (1978) reports this species growing on only 1 percent of the coastal sand dunes studied by him in southeastern and southwestern Florida.

The Halfert s.n. [3 Apr. 1934] collection, cited below, is a mixture with Lachnocaulon beyrichiamum Sporleder.

Additional citations: NORTH CAROLINA: Brunswick Co.: Godfrey 48362 (Ld, Ld). GEORGIA: Berrien Co.: R. Kral 24254 (Au--245544). Clinch Co.: R. Kral 24288 (Au--245585). Effingham Co.: R. Kral 24103 (Au--245647). Lanier Co.: R. Kral 24265 (Au--245589). Liberty Co.: R. Kral 24217 (Au--245523). Pierce Co.: R. Kral 24149 (Au--245644). Screven Co.: R. Kral 24028 (Au--245594), 24051 (Au--245595, Ld). Ware Co.: R. Kral 25307 (Au--245543). Wayne Co.: R. Kral 24184 (Au--245596), 24198 (Au--245547, Ld). FLORIDA: Alachua Co.: W. V. Brown s.n. [June 22, 1940] (Au--217130). Highlands Co.: B. M. Davis s.n. [Mar. 8, 1933] (Mi). Hillsborough Co.: Patman 1052 (Ld). Leon Co.: Godfrey 62901 (Au--229685, Ld). Liberty Co.: Godfrey 57055 (Ld). Okaloosa Co.: Godfrey 56719 (Au--232210). Polk Co.: Taylor & Taylor 7540 (Ld). Seminole Co.: Foster, Smith, & Smith Pl. Exsicc. Gray. 1334 (Au--26807, Au--198889, Ld). Volusia Co.: Halfert s.n. [3 Apr. 1934] in part (Mi).

SYNGONANTHUS GLANDULOSUS Gleason

Additional bibliography: Moldenke, Biol. Abstr. 64: 6581. 1977; Moldenke, Phytologia 37: 69--70, 82, 87, 88, 91, & 270 (1977) and 38: 40 & 42. 1977.

Additional citations: GUYANA: Irwin 776 (Au--165662).

SYNGONANTHUS GLANDULOSUS var. **EPAPILLOSUS** Moldenke

Additional bibliography: Moldenke, Biol. Abstr. 64: 6581. 1977; Moldenke, Phytologia 36: 36 & 65--66 (1977) and 37: 87, 88, & 270. 1977.

Recent collectors describe the leaves of this plant as green and flat, the flowers "pale-white", and have found it growing in the wet margins of forested streambanks or in riverine forests, at 350--1200 m. altitude, flowering and fruiting in August.

Material of this plant has been misidentified and distributed in some herbaria as S. biformis (N. E. Br.) Gleason.

Additional citations: VENEZUELA: Bolívar: Cardona Puig 2886 (W--2815597); Steyermark, Dunsterville, & Dunsterville 112373 (Lc), 112379 (Ld).

SYNGONANTHUS GOYAZENSIS (Körn.) Ruhl.

Additional bibliography: Moldenke, Biol. Abstr. 64: 6581. 1977; Moldenke, Phytologia 36: 67 (1977), 38: 38 (1977), and 40: 316. 1978.

SYNGONANTHUS GOYAZENSIS var. **HATSCHBACHII** Moldenke, Phytologia 40: 316. 1978.

Bibliography: Moldenke, Phytologia 40: 316. 1978.

Citations: BRAZIL: Goiás: Hatschbach 40064 (Z--type).

SYNGONANTHUS GRACILIS (Bong.) Ruhl.

Additional synonymy: Syngonanthus gracilis Moldenke, Biol. Ab-

str. 64: 6581, sphalm. 1977.

Additional bibliography: Spellman, Dwyer, & Davidse, *Rhodora* 77: 124. 1975; Moldenke, *Biol. Abstr.* 64: 6581. 1977; Moldenke, *Phytologia* 36: 63--66 & 68--85 (1977), 37: 70--77, 86, 257, 261, 269, 270, 274, 420, 421, 495, & 496 (1977), 38: 24, 40, 41, 47, & 48 (1977), 38: 193 (1978), and 41: 474. 1979.

Steyermark and his associates encountered this plant on dry, rocky, open, sandstone exposures, at 750 m. altitude, flowering and fruiting in January, and distributed it as "S. aff. S. simplex (Miq.) Ruhl. Tillet and his associates found it growing in white sand along riverbanks at 1350 m. altitude in an area of "las filas con 'crest slope vegetation' de Brocchinia, Stegolepis pungens, Heliamphora, etc., invadido por el bosque bajo (hasta 5 m) de los sitios con piedra expuesta y del borde de los riachuelos, 'valley forest' en las quebradas hondas; much evidencia de fuego, sobre todo las bases carbonizadas de Vellozia, Stegolepis y árboles muertos a pie". Goodland and Persaud found it in a white sand savanna, describe it as an "erect herb with white heads", and found it in fruit in October.

Spellman and his associates (1975) record S. gracilis from Belize, but this seems highly unlikely; re-examination of their material will probably show that it has been misidentified.

Additional citations: VENEZUELA: Amazonas: Tillett, Ferrigni V., & Zorrilla F. 751-78 (N). Bolívar: Steyermark, Dunsterville, & Dunsterville 113154 (Lc). GUYANA: Goodland & Persaud 1097 (N). MOUNTED CLIPPINGS: Bongard's original description (N, W, Z).

SYNGONANTHUS GRACILIS var. AMAZONICUS Ruhl.

Additional synonymy: Syngonanthus gracilis var. amazonicus Moldenke, *Biol. Abstr.* 64: 6581, sphalm. 1977.

Additional bibliography: Moldenke, *Biol. Abstr.* 64: 6581. 1977; Moldenke, *Phytologia* 36: 65, 76--77, & 83 (1977) and 37: 73. 1977.

SYNGONANTHUS GRACILIS var. AUREUS Ruhl.

Additional bibliography: Moldenke, *Biol. Abstr.* 64: 6581. 1977; Moldenke, *Phytologia* 36: 74, 77--79, 81, & 83 (1977) and 37: 420. 1977.

Recent collectors have encountered this plant among rocks and "locally common in moist sandy soil of savannas (campo)", describing it as a small herb, 15--20 cm. tall, with "cream"-colored inflorescence heads, and have found it in flower in July.

Additional citations: BRAZIL: Bahia: Santos & Mattos Silva 3264 (Ld). Minas Gerais: Windisch & Ghillány 345 [Herb. Brad. 54254] (N). Roraima: Coradin & Cordeiro 851 (N).

SYNGONANTHUS GRACILIS var. GLABRIUSCULUS Ruhl.

Additional bibliography: Moldenke, *Biol. Abstr.* 64: 6581. 1977; Moldenke, *Phytologia* 36: 72, 73, 75, & 80--83. 1977.

Kirkbride & Lleras describe this as a plant to 8 cm. tall, with white heads (in February), and found it growing in artificially created wet areas. Their no. 2924 is a mixture with what may be S. minutulus (Steud.) Moldenke. Other recent collectors refer to the plant as a small herb, 10 cm. tall, and found it to be "common on savannas (campo) in moist sandy soil", at 107 m. altitude, flowering and fruiting in September and October.

Additional citations: BRAZIL: Bahia: Mori, Mattos Silva, & Santos 10615 (Ld). Pará: Kirkbride & Lleras 2924 in part (W--2815575). Roraima: Coradin & Cordeiro 530 (N).

SYNGONANTHUS GRACILIS var. HIRTELLUS (Steud.) Ruhl.

Additional bibliography: Moldenke, Biol. Abstr. 64: 2581. 1977; Moldenke, Phytologia 36: 72 & 82--84 (1977) and 37: 70, 74, & 76. 1977.

Recent collectors have found this plant growing on campos, flowering and fruiting in September. Mori and his associates note on the label of their no. 10613 that it is "like 10616 but the inflorescence shorter".

Additional citations: BRAZIL: Bahia: Mori, Mattos Silva, & Santos 10503 (Ld), 10613 (Ld), 10616 (Ld).

SYNGONANTHUS GRACILIS var. KOERNICKEANUS Ruhl.

Additional bibliography: Moldenke, Biol. Abstr. 64: 6581. 1977; Moldenke, Phytologia 37: 70--72 & 76 (1977), 38: 41 (1977), and 41: 474. 1979.

Recent collectors have found this plant in white sand of savannas and in damp brown sand of damp savanna sinks, at 750 m. altitude, flowering and fruiting in January and September. Steyermark and his associates describe it as having "leaf clusters gray-green with white centrally, heads creamy-white". Irwin calls the heads "grayish-white".

Material of this taxon has been misidentified and distributed in some herbaria as Paepalanthus sp.

Additional citations: VENEZUELA: Bolívar: Steyermark, Dunsterville, & Dunsterville 113362 (Z). GUYANA: Irwin 775 (Au--165358). SURINAM: Mori, Bolten, & Jansma 8326 (Ld, N).

SYNGONANTHUS GRACILIS f. PROLIFER Moldenke

Additional bibliography: Moldenke, Phytologia 37: 73. 1977.

Recent collectors have encountered this plant "in rocky terrain around waterfalls, growing on moist cliff in spray of fall", at 300 m. altitude, fruiting in May.

Additional citations: BRAZIL: Pará: Prance, Silva, Berg, Henderson, Nelson, Balick, Bahia, & Reis dos Santos P.24837 (N).

SYNGONANTHUS GRACILIS var. RECURVIFOLIUS Ruhl.

Additional bibliography: Moldenke, Phytologia 37: 74 & 77. 1977.

[to be continued]